

CLAIMS

1. Device for rendering operational a hydraulic actuating device, in particular for a clutch of a motor vehicle, with an emitter-receiver system located in the hydraulic transmission path of the actuating device, which comprises two pistons whose positions relative to one another can vary as a function of the desired operating behavior of the actuating device, with a hydraulic supply and with a fluid supply unit for the emitter-receiver system, characterized in that the fluid supply unit (24) comprises at least one impulse valve (25) which serves to release an essentially constant volume flow, this valve being acted upon by an impulse valve control device (26) constructed in such manner that the volume flow of fluid released from the fluid supply unit (24) and flowing into the emitter-receiver system (5) does not exceed a limiting volume flow Q_K .

2. Device according to claim 1, characterized in that the pistons of the emitter-receiver system (5) made as an emitter piston (14) and a receiver piston (16) are located and can move axially relative to one another within a cylinder, and together with the inside wall of the said cylinder define a filling space at the boundary of which is positioned a filling opening (23) for the fluid coming from the fluid supply unit (24).

3. Device according to claim 2, characterized in that one of the pistons (14) has at least one opening (23) which allows fluid to pass into the space between the piston surfaces of the emitter piston (14) and the receiver piston (16).

4. Device according to claim 2, characterized in that the impulse valve control device (26) comprises a control element (27) which maintains the volume flow in the area of the filling opening (23) at a level that ensures volume constancy of the filling space.

5. Device according to claim 4, characterized in that the filling opening (23) of the filling space is positioned such that it can be closed off by axial displacement of one piston (14), and the control element (27) of the impulse valve control device (26) limits the volume flow into the filling space in such manner that the piston (14)

remains in a position where the said filling opening (23) of the filling space is not closed off.

6. Device according to claim 1, characterized in that the impulse valve control device (26) comprises a data memory (29) in which flow resistance parameters of at least one impulse valve (25) are or will be stored, these being taken into account when computing the maximum permissible volume flow for filling the emitter-receiver system (5).

7. Device according to claim 4, characterized in that the control element (27) for influencing the supply pressure delivered by the hydraulic supply actuates a pressure adjustment unit (30), by which a reference pressure suitable for filling the space between the emitter piston (14) and the receiver piston (16) is established.

8. Device according to claims 1 or 4, characterized in that the pressure loss of an impulse valve (25) through which a constant volume flow is passing, is processed in the impulse valve control device (26) as a parameter for a defined pressure drop at the said valve.

9. Device according to claim 1, characterized in that the control element (27) for influencing the volume flow coming from the hydraulic supply cooperates with a volume flow regulation device (31), by which a volume flow suitable for filling the emitter-receiver system (5) is determined.

10. Device according to claim 8, characterized in that in the fluid supply unit (24) there is a hydraulic line branch (34) to which at least one additional impulse valve (32, 33) is connected in accordance with flow-technological practice.

11. Device according to claims 8 or 9, characterized in that in relation to the type and interconnection of the impulse valves (25, 32, 33) the impulse valve control device (26) makes a selection that results in a defined flow resistance, which does not exceed a limiting flow volume Q_k directed towards the filling opening (23) of the filling space.